# KARNATAKA TEST HOUSE PVT. LTD.

## MATERIAL TESTING LABORATORY

# 778/44, Gokul 1st Stage, 2nd Phase, 8th Cross, Triveni Road,
Yeshwanthpur, Bangalore - 560 054.
Tel.: 23378383, 23375326, E-mail : kthblr@gmail.com Website : www.karnatakatesthouse.com


**Report No. : KTH/C.AGG/2836-4880/2013-2014** **Date: 22.03.2014**

## TEST REPORT ON AGGREGATE
(Coarse Aggregate)

Name of the Customer* : **The Assistant Executive Engineer,**
Shettyhalli Sub Division,
BBMP, Bangalore.

Name of the Project* : Improvements to road Shettyhalli village, in ward No.12.

Name of Contractor* : The Technical Manager(West) – 1, KRIDL, Bangalore.

Source of Sample : Supplied by the Customer.

Sample Received on : 19.03.2014.

Technical Reference : IS: 2386 Part I to VIII– 1963 (Reaffirmed-2002), IS : 383 – 1970.

**Sieve Analysis of Coarse Aggregate - 40mm & down size**

| Sl. No. | Sieve size mm | % Passing | IS : 383-1970 Stipulations | | Remarks |
|---|---|---|---|---|---|
| | | | Single Size | Graded Size | |
| 1 | 63 | 100 | 100 | 100 | Sample does not confirms to IS: Stipulation of 40mm size Aggregate |
| 2 | 40 | 16.26 | 85 to 100 | 95 to 100 | |
| 3 | 20 | - | 0 to 20 | 30 to 70 | |
| 4 | 12.5 | - | 0 to 20 | - | |
| 5 | 10 | - | 0 to 5 | 10 to 35 | |
| 6 | 4.75 | - | - | 0 to 5 | |

| Sl. No. | Test Conducted | Identification mm | Results | IS : 383 – 1970 Stipulations |
|---|---|---|---|---|
| 1 | Flakiness Index (%) | 40 | 17.71 | Not specified |
| 2 | Elongation Index (%) | 40 | 24.15 | Not specified |
| 3 | Impact Value (%) | 40 | 26.32 | Shall not be more than 45% for Concrete and 30% for Wearing surfaces, such as runways, roads and pavements. |

* As furnished by the Customer

For **KARNATAKA TEST HOUSE PVT. LTD.**

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**(SREENIVASA.C.)**
**TECHNICAL MANAGER**

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(Coarse Aggregate)

Name of the Customer* : **The Assistant Executive Engineer,**
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Name of the Project* : Improvements to road Shettyhalli village, in ward No.12.

Name of Contractor* : The Technical Manager (West)– 1, KRIDL, Bangalore.

Source of Sample : Supplied by the Customer.

Sample Received on : 19.03.2014.

Technical Reference : IS : 2386 Part I to VIII– 1963 (Reaffirmed-2002), IS : 383 – 1970.

**Sieve Analysis of Coarse Aggregate - 20mm**

| Sl. No. | Sieve size mm | % Passing | IS : 383-1970 Stipulations | | Remarks |
|---|---|---|---|---|---|
| | | | Single Size | Graded Size | |
| 1 | 40 | 100 | 100 | 100 | Sample confirms to Single size of IS: Stipulation of 20mm size Aggregate. |
| 2 | 20 | 87.82 | 85 to 100 | 95 to 100 | |
| 3 | 16 | 28.47 | - | - | |
| 4 | 10 | 16.38 | 0 to 20 | 25 to 55 | |
| 5 | 4.75 | 0.97 | 0 to 5 | 0 to 10 | |

| Sl. No. | Test Conducted | Identification mm | Results % | IS : 383 – 1970 Stipulations |
|---|---|---|---|---|
| 1 | Flakiness Index (%) | 20 | 12.1 | Not specified |
| 2 | Elongation Index (%) | 20 | 14.9 | Not specified |
| 3 | Crushing Value (%) | 20 | 17.1 | Shall not be more than 45% for Concrete and 30% for Wearing surfaces, such as runways, roads and pavements. |

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For **KARNATAKA TEST HOUSE PVT. LTD.**

**(SREENIVASA.C.)**
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ಶೆಟ್ಟಿಹಳ್ಳಿ ಉಪವಿಭಾಗ, ದಾಸರಹಳ್ಳಿ ವಲಯ
ಬೃಹತ್ ಬೆಂಗಳೂರು ಮಹಾನಗರ ಪಾಲಿಕೆ
ಎಸ್.ಎಂ ರಸ್ತೆ, ರಬೀಂದ್ರನಗರ, ಬೆಂಗಳೂರು

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**Report No. : KTH/C.AGG/2836-4882/2013-2014** **Date: 22.03.2014**

## TEST REPORT ON AGGREGATE

(Fine Aggregate)

Name of the Customer* : **The Assistant Executive Engineer,**
Shettyhalli Sub Division,
BBMP, Bangalore.

Name of the Project* : Improvements to road Shettyhalli village, in ward No.12.

Name of Contractor* : The Technical Manager (West)– 1, KRIDL, Bangalore.

Source of Sample : Supplied by the Customer.

Sample Received on : 19.03.2014.

Technical Reference : IS : 2386 Part I to VIII– 1963 (Reaffirmed-2002), IS : 383 – 1970.

**Sieve Analysis of Fine Aggregate (River Sand)**

| Sl. No. | Sieve size mm | % Passing | IS : 383 – 1970 Specification | | | | Remarks |
|---|---|---|---|---|---|---|---|
| | | | % passing for Zone I | % passing for Zone II | % passing for Zone III | % Passing for Zone IV | |
| 1 | 10 | 100.0 | 100 | 100 | 100 | 100 | Falls in Zone –III as per table 4 of IS-383 – 1970. |
| 2 | 4.75 | 94.8 | 90 – 100 | 90 – 100 | 90 – 100 | 95 - 100 | |
| 3 | 2.36 | 89.3 | 60 – 95 | 75 – 100 | 85 – 100 | 95 - 100 | |
| 4 | 1.18 | 81.2 | 30 – 70 | 55 – 90 | 75 – 100 | 90 - 100 | |
| 5 | 0.600 | 46.7 | 15 – 34 | 35 – 59 | 60 – 79 | 80 - 100 | |
| 6 | 0.300 | 9.4 | 5 – 20 | 8 – 30 | 12 – 40 | 15 to 50 | |
| 7 | 0.150 | 0.3 | 0 – 10 | 0 – 10 | 0 – 10 | 0 to 15 | |

| Sl. No. | Test Conducted | Results | IS : 383 – 1970 Stipulations |
|---|---|---|---|
| 1. | Materials finer than 75 microns (%) (Deleterious Material) | 1.1 | Shall not be more than 3.0 % |
| 2. | Fineness Modulus | 2.7 | Min - 2.0<br>Max - 3.5 |

* As furnished by the Customer

For **KARNATAKA TEST HOUSE PVT. LTD.**

**(SREENIVASA.C)**
**TECHNICAL MANAGER**


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**Report No. : KTH/CEMENT/2836-4881/2013-2014** **Date: 26.03.2014**

## PHYSICAL TEST REPORT ON CEMENT

Interim 3 & 7 days

Name of the Customer* : **The Assistant Executive Engineer,**
Shettyhalli Sub Division,
BBMP, Bangalore.

Name of the Project* : Improvements to road Shettyhalli village, in ward No.12.

Name of Contractor* : The Technical Manager (West)– 1, KRIDL, Bangalore.

Source of Sample : Supplied by the Customer.

Type of Cement* : Ordinary Portland cement (OPC)

Brand of Cement* : Birla super 53 Grade.

Sample Received on : 19.03.2014.

Period of Test : 19.03.2014 to 26.03.2014.

Technical Reference : IS: 4031(Part I–VI) 1988 (Reaffirmed–2000) & IS: 12269-1987.

| Sl. No. | Test Conducted | Results | IS : 12269-1987 Stipulation | Remarks |
|---|---|---|---|---|
| 1 | Normal consistency | 27.0 % | Not specified | - |
| 2 | Initial setting time | 186 minutes | Shall not be less than 30 minutes | P |
| 3 | Final setting time | 282 minutes | Shall not be more than 600 minutes | P |
| 4 | Compressive strength (Average of three results)<br>a. 72 ± 1h (3 days)<br>b.168 ± 2h (7 days)<br>c. 672 ± 4h (28 days) | <br>28.93 MPa<br>39.85 MPa<br>T.T.C | <br>Shall not be less than 27.0 MPa<br>Shall not be less than 37.0 MPa<br>Shall not be less than 53.0 MPa | <br>P<br>P<br>- |
| 5 | Fineness (By Blaine's air permeability method) | 351.20 $m^2/kg$ | Shall not be less than 225 $m^2/kg$ | P |
| 6 | Soundness (Le-chatlier's method) | 1.21 mm | Shall not be more than 10 mm | P |

P: Passes IS requirement F: Fails IS requirement T.T.C: Test To be Conducted.

*As furnished by the Customer

For **KARNATAKA TEST HOUSE PVT. LTD.**

**(SREENIVASA.C.)**
**TECHNICAL MANAGER**

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**Report No.: KTH/ST/2836-4883/2013-2014** **Date: 22.03.2014**

**TEST REPORT ON STEEL BARS**

| | | |
|---|---|---|
| Name of the Customer* | : | **The Assistant Executive Engineer,**<br>Shettyhalli Sub Division,<br>BBMP Bangalore. |
| Name of the Project* | : | Improvements to road Shettyhalli village, in ward No.12. |
| Name of Contractor* | : | The Technical Manager (West)– 1, KRIDL, Bangalore. |
| Source of Sample | : | Supplied by the Customer. |
| Sample Received on | : | 19.03.2014. |
| Nature of Sample* | : | Reinforcement steel –10mm & 12mm. |
| Technical Reference | : | Tensile IS: 1786 – 2008 & IS: 1608–1995 (Reaffirmed–2000)<br>Bend & Re-bend IS: 1786 – 2008 & IS: 1599 - 1985 (Reaffirmed–2000) |
| Grade of Steel* | : | Fe-500. |

**TENSILE TEST :**

| **Dia (mm)** | **10** | **12** | **Limits as per IS : 1786-2008, Gr. Fe 500** |
|---|---|---|---|
| **Weight / unit length (kg/m)** | 0.591 | 0.878 | 10mm – 0.574 Min<br>12mm – 0.844 Min |
| **Yield Stress ($N/mm^2$)** | 561.7 | 515.9 | 500 Min |
| **Tensile Strength ($N/mm^2$)** | 801.4 | 729.0 | 10% More than actual 0.2% proof stress but not less than 545 $N/mm^2$ |
| **% Elongation (on 5.65 √AG.L)** | 22.0 | 21.8 | 12.0 Min. |

**BEND TEST:**

| *Sl. No.* | *Dia (mm)* | *Mandrel diameter* | *Observations* |
|---|---|---|---|
| 1. | 10 | 4 dia | No cracks observed. Passes the test. |
| 2. | 12 | 4 dia | No cracks observed. Passes the test. |

**REBEND TEST:**

| *Sl. No.* | *Dia (mm)* | *Mandrel diameter* | *Observations* |
|---|---|---|---|
| 1. | 10 | 5 dia | No cracks observed. Passes the test. |
| 2. | 12 | 7 dia | No cracks observed. Passes the test. |

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**Report No. : KTH/CT/2836-4879/2013-2014** **Date: 19.03.2014**

## *TEST REPORT ON CONCRETE CUBES*

To,

**The Assistant Executive Engineer,**
Shettyhalli Sub division,
BBMP, Bangalore.

Name of Project* : Improvements to road Shettyhalli village, in ward No.12.

Name of Contractor* : The Technical Manager (West)– 1, KRIDL, Bangalore.

Sample Received on : 19.03.2014.

Compressive Strength test as per IS: 516-1959 (Reaffirmed 1999) has been conducted on the concrete cube specimens, supplied by the Contractor and the results are tabulated here below:

Dimension of Specimen: 150mmx150mmx150mm

| Sl. No | Cubes pertaining to the concrete cast at*(Details of structural member identification) | Grade of Concrete* | Date of casting* | Date of Testing | Age of Concrete on the date of test** | Contact area ($mm^2$) | Weight of Specimen (Kg) | Load in KN | Compressive Strength in $N/mm^2$ |
|---|---|---|---|---|---|---|---|---|---|
| 1. | Road Concrete | $M_{20}$ | 15.02.2014 | 19.03.2014 | Above 28 days | 22500 | 8.280 | 716 | 31.82 |
| 2. | | " | " | " | " | " | 8.170 | 589 | 26.17 |

1 N/Sq.mm = 10Kg/Sq.cm.(Approx.)
*As Furnished by the Customer
**Based on the data furnished by the Customer
Note: A minimum of three cube specimens shall be supplied for testing as per IS:516-1959.

*for* ***KARNATAKA TEST HOUSE PVT. LTD.***

***(SREENIVASA.C.)***
***TECHNICAL MANAGER***


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